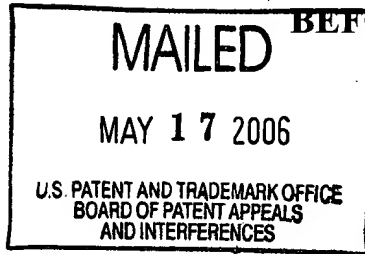


The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

**UNITED STATES PATENT AND TRADEMARK OFFICE**



**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Ex parte STEPHEN M. MEGINNISS III and  
KEVIN T. UNDERWOOD

Appeal No. 2006-0626  
Application No. 09/316,990

ON BRIEF

Before McQUADE, HANLON and FRANKLIN, Administrative Patent Judges.  
McQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Stephen M. Meginniss III et al. appeal from the final rejection of claims 1-5, 9 and 12-14. Claims 10, 11 and 15-19, the only other claims pending in the application, stand withdrawn from consideration.

THE INVENTION

The subject matter on appeal "relates generally to treatment for xerostomia (dry mouth) and more particularly concerns an apparatus . . . for such treatment involving

stimulation of the salivary glands and/or salivary ducts” (specification, page 1).

Representative claim 1 reads as follows:

1. An article for use in treatment of xerostomia, comprising:

a driver assembly capable of producing a vibrating action at a drive frequency;

a stimulator assembly operatively connected to said driver assembly such that the stimulator assembly vibrates in response to operation of the driver assembly, the stimulator assembly including a stimulator member for vibrating a salivary member, wherein the vibration of the stimulator member has such a frequency and amplitude and wherein the stimulator member is so configured and arranged, comprising [sic] substantially only a plurality of cylindrical elastomeric finger elements, substantially all of which have rounded top portions with a selected length within the range of 0.2-0.5 inches and a cross-sectional diameter within the range of 0.06-0.25 inches and are made from an elastomeric material having a durometer in the range of 20-60 shore A, which is sufficiently flexible, resilient and soft, that when the stimulator member is brought into contact with the salivary member, a sufficient vibrational effect is produced on the salivary member that a significant increase in the saliva production into the oral cavity results.<sup>1</sup>

#### THE PRIOR ART

The references relied on by the examiner to support the final rejection are:

Michaels	5,040,260	Aug. 20, 1991
Giuliani et al. (Giuliani)	5,189,751	Mar. 02, 1993
Roberts et al. (Roberts)	5,987,688	Nov. 23, 1999

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<sup>1</sup> In the event of further prosecution, the examiner should consider whether the recitations in claim 1 of the stimulator member as “co[m]prising substantially only” a plurality of cylindrical elastomeric finger elements and in claim 12 of a stimulator configuration suitable “only” for tissue vibration outside of the oral cavity present issues under the first and/or second paragraphs of 35 U.S.C. § 112.

### THE REJECTION

Claims 1-5, 9 and 12-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Giuliani in view of Michaels and Roberts.

Attention is directed to the brief (filed December 23, 2005)<sup>2</sup> and the final rejection and answer (mailed October 20, 2004 and June 27, 2005) for the respective positions of the appellants and examiner regarding the merits of this rejection.

### DISCUSSION

Giuliani, the examiner's primary reference, discloses a vibrating toothbrush 10 comprising an outer case 12, an elongated lever arm 14 pivotally mounted to the case, bristles 18 on the outer end of the lever arm, a permanent magnet assembly 20 on the inner end of the lever arm and a magnetic driver. The magnetic driver consists of an electromagnet 24 in operative association with the permanent magnet assembly and a battery/oscillator section 26 for energizing and controlling the electromagnet. The driver is capable of vibrating the lever arm and bristles in an operating frequency range of 150 to 400 Hz. Giuliani selects the operating frequency to be either (1) approximately equal to the natural mechanical resonant frequency of the lever arm and its pivotal mounting means or (2) slightly different therefrom by a small amount such that the amplitude of vibration increases when the lever arm and bristles are in a loaded condition as opposed to an unloaded condition (see column 2, line 54, through column 3, line 6; and column 9, lines 10-49).

The appellants cite Giuliani in their specification (see page 4) as disclosing a mechanism that produces the vibrating movement required by their invention and do not

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<sup>2</sup> This brief is a supplemental brief that corrects minor informalities in a preceding brief (filed March 21, 2005). The substantive arguments respectively advanced in these briefs are the same.

dispute the examiner's determination (see page 2 in the final rejection) that Giuliani's driver meets the driver assembly limitations in claim 1. The examiner concedes, however, that the Giuliani device does not respond to the particular stimulator assembly limitations in the claim. To cure this shortcoming, the examiner turns to Michaels and Roberts.

Michaels discloses "a durable toothbrush head which is effective for cleaning and polishing teeth, and massaging and stimulating the gums, without injury to the hard or soft tissues" (column 1, lines 7-10). To this end, Michaels replaces the conventional but problematic nylon bristles typically used in a toothbrush with elastomeric projections (see, for example, column 1, lines 11-49; and column 2, lines 62-68). According to Michaels, the elastomeric projections are superior to nylon bristles in terms of cleaning/polishing effectiveness, abrasion prevention, fatigue resistance and hygienic maintenance (see column 3, lines 57-65).

Roberts pertains to "gum-massaging oral brushes which provide good comfort and gum stimulation while also providing good cleaning of the teeth" (column 1, lines 33-35). To negate the deleterious effects of sharp and excessively stiff conventional bristles (see column 1, lines 16-20), Roberts makes some or all of the bristles on the inventive brushes of an elastomeric material (see column 1, lines 38-57; and column 6, lines 5-7). Roberts also teaches that the bristles can have a convex curved topography (see column 3, lines 4-8), that the elastomeric bristles may be formed of tufts of one or more filaments (see column 3, lines 24-25), that if a relatively soft thermoplastic elastomer is used, the filaments preferably have a diameter less than about 200 mil, and

more preferably 30 to 100 mil (see column 4, lines 22-26), and that suitable elastomers have a Shore A hardness of at least 30, and preferably from about 35 to 55 (see column 4, lines 28-30).

Combining Giuliani, Michaels and Roberts to reject claim 1 (see pages 2 and 3 in the final rejection), the examiner submits that it would have been obvious to substitute elastomeric members or bristles, i.e., finger elements, for the bristles of Giuliani to obtain the advantages taught by Michaels, and further to provide such elastomeric finger elements with rounded tops, a cross sectional diameter and a Shore A hardness as specified in the claim to enhance performance as taught by Roberts. Recognizing that Giuliani, Michaels and Roberts do not expressly mention the length of the bristles or finger elements described therein, the examiner contends that a length responsive to that recited in claim 1 would have been a “simple design choice encompassing the range of standard bristles on a tooth brush” (final rejection, page 3).

The appellants do not take issue with these proposed structural modifications of the device disclosed by Giuliani, and indeed appear to allow that such would have been obvious for the purpose of producing a desirable toothbrush/gum massager (see page 5 in the brief). The appellants do contend, however, that the rejection is unsound because the applied references would not have suggested the reference combination and associated modifications to Giuliani proposed by the examiner for the purpose of solving the problem of xerostomia. The following passage from the brief fairly summarizes the appellants’ position:

. . . there is no teaching or motivation which [would] lead one skilled in the art to use the Michaels brushhead structure with the Giuliani

driver to solve the problem of xerostomia, and likewise there is no teaching, apart from applicants' own disclosure, of modifying Michaels with Roberts to come up with elastomeric finger elements having the claimed physical characteristics to produce an increase in saliva from the salivary glands.

One skilled in the art, faced with the well-recognized and long-standing problem of xerostomia, in the absence of applicants' disclosure, is without any teaching which would motivate him/her to use the Michaels toothbrush head with the Giuliani drive, and further is without any teaching of modifying Michaels with the Roberts teaching. It is the applicants, and the applicants alone, who have provided the critical teaching of using elastomeric members having the particular claimed physical characteristics in a stimulator assembly which, when vibrated at a particular amplitude and frequency, solves the problem of xerostomia [page 6].

This line of argument is not persuasive.

The structural modifications of the Giuliani toothbrush proposed by the examiner in light of Michaels, Roberts and the unchallenged assertion of standard toothbrush bristle length are reasonable on their face and, as indicated above, seem to be acquiesced to by the appellants. The requisite motivation or suggestion for the modifications to Giuliani lies in Michaels' description of the advantages of using elastomeric projections or bristles in a toothbrush environment, Roberts' disclosure of the benefits of using projections or finger elements having the shape, diameter and Shore A hardness specified in claim 1 and the standard nature of the bristle or finger element length called for in the claim.

As so modified, the Giuliani toothbrush seemingly would respond to all of the structural limitations in claim 1. As pointed out by the appellants, however, claim 1 also contains use and functional limitations relating to the treatment of xerostomia.

More particularly, the preamble of claim 1 broadly calls for the article recited in the claim to be "for use in treatment of xerostomia." It must be kept in mind, however,

that claim 1 is directed to an article, not a method of using the article. The preamble merely sets forth the intended use of the article. It is well settled that the manner or method in which a device is to be utilized is not germane to the issue of patentability of the machine itself. In re Casey, 370 F.2d 576, 580, 152 USPQ 235, 238 (CCPA 1967). Moreover, the appellants have failed to cogently explain, and it is not apparent, why the Giuliani device as modified in the manner proposed by the examiner would not be capable of use in the treatment of xerostomia.

Claim 1 also sets forth the functional limitation requiring “that when the stimulator member is brought into contact with the salivary member, a sufficient vibrational effect is produced on the salivary member that a significant increase in the saliva production into the oral cavity results.”<sup>3</sup> As modified in the manner advanced by the examiner, the Giuliani device would have a brush or bristle arrangement responsive to all of the structural stimulator assembly limitations recited in claim 1. Here again, the appellants have not cogently explained, and it is not evident, why such a brush or bristle arrangement, when vibrated by Giuliani’s driver, would not be capable of performing the aforementioned function.

Finally, it is true that none of the applied references address the problem of xerostomia. Still, as long as some motivation or suggestion to combine the references is provided by the prior art taken as a whole, the law does not require that the references be combined for the reasons contemplated by the inventor. In re Beattie, 974 F.2d 1309, 1312, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992). As explained above, the collective

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<sup>3</sup> Read in light of the underlying specification (see page 9), the recitation of a significant increase in saliva production would be understood as requiring an increase of at least 0.1 milliliter.

teachings of Giuliani, Michaels and Roberts would have furnished the artisan with ample motivation or suggestion to combine them to produce an article which ostensibly is structurally identical to that recited in claim 1 and fully capable of functioning and being used in the manner set forth in the claim.

Hence, considered in light of the totality of evidence and argument before us, the examiner's conclusion that the differences between the subject matter recited in claim 1 and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art is well founded.

Accordingly, we shall sustain the standing 35 U.S.C. § 103(a) rejection of independent claim 1 as being unpatentable over Giuliani in view of Michaels and Roberts.

We also shall sustain the standing 35 U.S.C. § 103(a) rejection of dependent claims 2-5, 9 and 12-14 as being unpatentable over Giuliani in view of Michaels and Roberts since the appellants have not challenged such with any reasonable specificity, thereby allowing these claims to stand or fall with parent claim 1 (see In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987)).

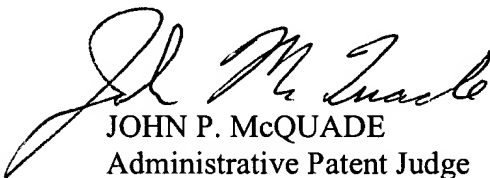


SUMMARY

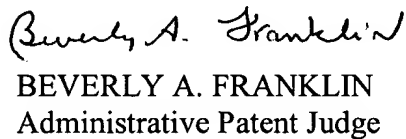
The decision of the examiner to reject claims 1-5, 9 and 12-14 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

  
JOHN P. McQUADE  
Administrative Patent Judge

  
ADRIENE LEPIANE HANLON  
Administrative Patent Judge

  
BEVERLY A. FRANKLIN  
Administrative Patent Judge

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